Amendments to the Specification:

Please replace paragraph [0016] with the following amended paragraph:

[0016] With reference to Figure 1, an infrared sensor 10 is shown comprising a thermopile transducer 12 and a signal processing circuitry 14 on a silicon substrate 20, which may be formed of undoped or lightly-doped (i.e., not heavily doped) single-crystal silicon or another suitable semiconductor material. The sensor 10 is depicted as being of a type disclosed in co-pending U.S. Patent Application Serial No. 10/065,447, ~~{Attorney Docket No. DP-306616},~~ which is incorporated herein by reference. The thermopile transducer 12 is supported on a thin membrane, or diaphragm 16, surrounded by a support frame 18 formed by the substrate 20. The signal conditioning circuitry 14 is represented as comprising a complementary metal-oxide-semiconductor (CMOS) device fabricated on the frame 18 to provide on-chip interface/compensation circuitry for the output of the transducer 12. Notably, the substrate 20 is undoped or lightly-doped because a heavily-doped substrate would be incompatible with the CMOS process used in the present invention.

Please replace paragraph [0017] with the following amended paragraph:

[0017] The diaphragm 16 and frame 18 are shown as supporting a pair of thermopiles 22, each comprising a series of thermocouples 24. According to U.S. Patent Application Serial No. 10/065,447, ~~{Attorney Docket No. DP-306616)~~, the thermocouples 24 of one thermopile 22 preferably alternate with the thermocouples 24 of the second thermopile 22, such that the thermopiles 22 are interlaced. Each thermocouple 24 has a pair of junctions, referred to as hot and cold junctions 26 and 28, respectively, formed by dissimilar electrically-resistive materials. The dissimilar materials are preferably aluminum and, as will be discussed in greater detail below, p–type polysilicon (polysilicon legs are shown in Figure 1), though other materials could be used. The thermocouples 24 have their cold junctions (CJ) 28 on the frame 18 and their hot junctions (HJ) 26 on the diaphragm 16, which is adapted for absorption of infrared radiation and preferably composed of multiple layers of dielectric materials, polysilicon and metals, at least some of which enhance infrared and heat absorption. When the diaphragm 16 is exposed to infrared radiation, these layers absorb the radiation and raise the temperature of a central heat-absorption zone 30 of the diaphragm 16 above that of the surrounding area of the diaphragm 16. This, coupled with the

heat loss to the support frame 18, creates a temperature gradient from the center of the sensor 10 to the edge of the diaphragm 16, causing the thermocouples 24 to produce a measurable output voltage, or Seebeck potential, from the thermopiles 22.